

NIH Scientific Workforce Diversity Actions and Progress: 2014-2019

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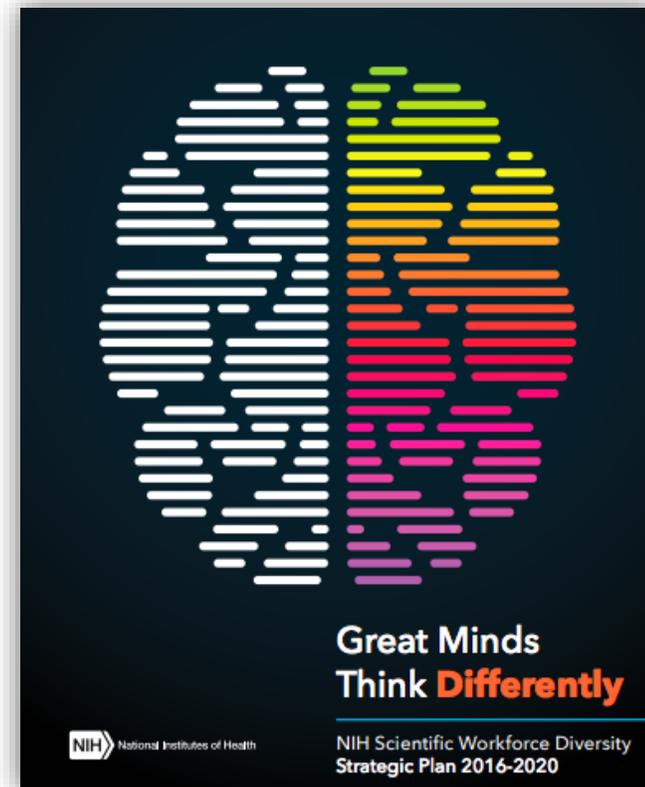
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NIH Scientific Workforce Diversity 2014-2019 Actions and Progress

Presentation Outline

- **ACD Working Group on Diversity in the Biomedical Research Workforce recommendations and key data points (endorsed by the ACD in June 2012)**
- **Implementation of 2012 ACD recommendations**
 - Applications/funding: R01, K, fellowships, training awards
 - National diversity trends - PhD recipients
 - Diversity Program Consortium (BUILD, NRMN)
 - Tracking and evaluation of diversity metrics
- **2017 ACD recommendations focused on career-independence transition through institutional change**



NIH Scientific Workforce Diversity Strategic Plan

Key Data Points Identified by the ACD WGD BRW

Context for Assessing Progress

National Data

- Small # URGs in STEM
- 504/year*

Research Project Grants** (R01eq)

- *Applications*
 - AA/B 1.3%
 - Hisp 3.4%
- *Awards*
 - AA/B <1%
 - Hisp 2.5%

AA/B applicants 13 %
points less likely to be
awarded R01

K Awards (K01, K08, K23)

- AA/B 4%
- Hisp 5%

NIH Training Awards

- Pre-doc F30/F31
 - AA/B 1.3%
 - Hisp 3.4%
- Post-doc F32/T32
 - AA/B 1.3%
 - Hisp 3.4%

URG - 10% all pre-doc
awards
URG - 8.1% NIH-
sponsored post-docs

* Biological science, chemistry, and physics – 2000-2008 (NSF women, minorities and people with disabilities report 2011)

**Note: Although generally NIH awards are made to institutions, as the applicants and awardees of NIH funding, for purposes of this presentation, the terms “applications,” “applicants,” and “awardees” reference those individuals designated as senior/key personnel on NIH applications and/or awards, respectively.

Original 2012 ACD WGD BRW Recommendations

PIPELINE

- #3 additional financial support for undergraduates
- #1 systematic review and evaluation of all diversity programs
- #4 assess reason for disparity in grant awards
- #6 establish ACD Diversity Working Group
- #2 develop interest in STEM in K-12 and beyond

MENTORING

- #5 establish a system of mentorship “networks”

PEER REVIEW

- #9 establish ACD Diversity Working Group Subcommittee on Peer Review
- #10 implicit bias/diversity awareness training for scientific review and program officers
- #11 design experiment to determine effects of application anonymization
- #7 more detailed explanation for unscored grant applications

INFRASTRUCTURE

- #8 establish bold, multi-year awards to enhance diversity at under-resourced institutions
- #12 appoint chief diversity officer and establish office of diversity
- #13 more comprehensive search for tenure-track investigators (e.g., Stadtman search)

Interpreting R01 Success Rates in Context of Decline in Pay Lines: *Gap Persists but is Slightly Narrowed*

30% OF FUNDING GAP
ATTRIBUTABLE TO
APPLICANT &
REVIEWER TOPIC
PREFERENCE

(Hoppe, et al. in press)

Success rate for **Type 1 R01** (Ginther et al. 2011):
FY 2000 – 2006

African American applicants: 17.1%

White applicants: 29.3%

Differential success (AA:W) 0.58

Success rate for **Type 1 R01-Equivalent**:
FY 2013 - 2018

African American applicants: 11.3%

White applicants: 18.1%

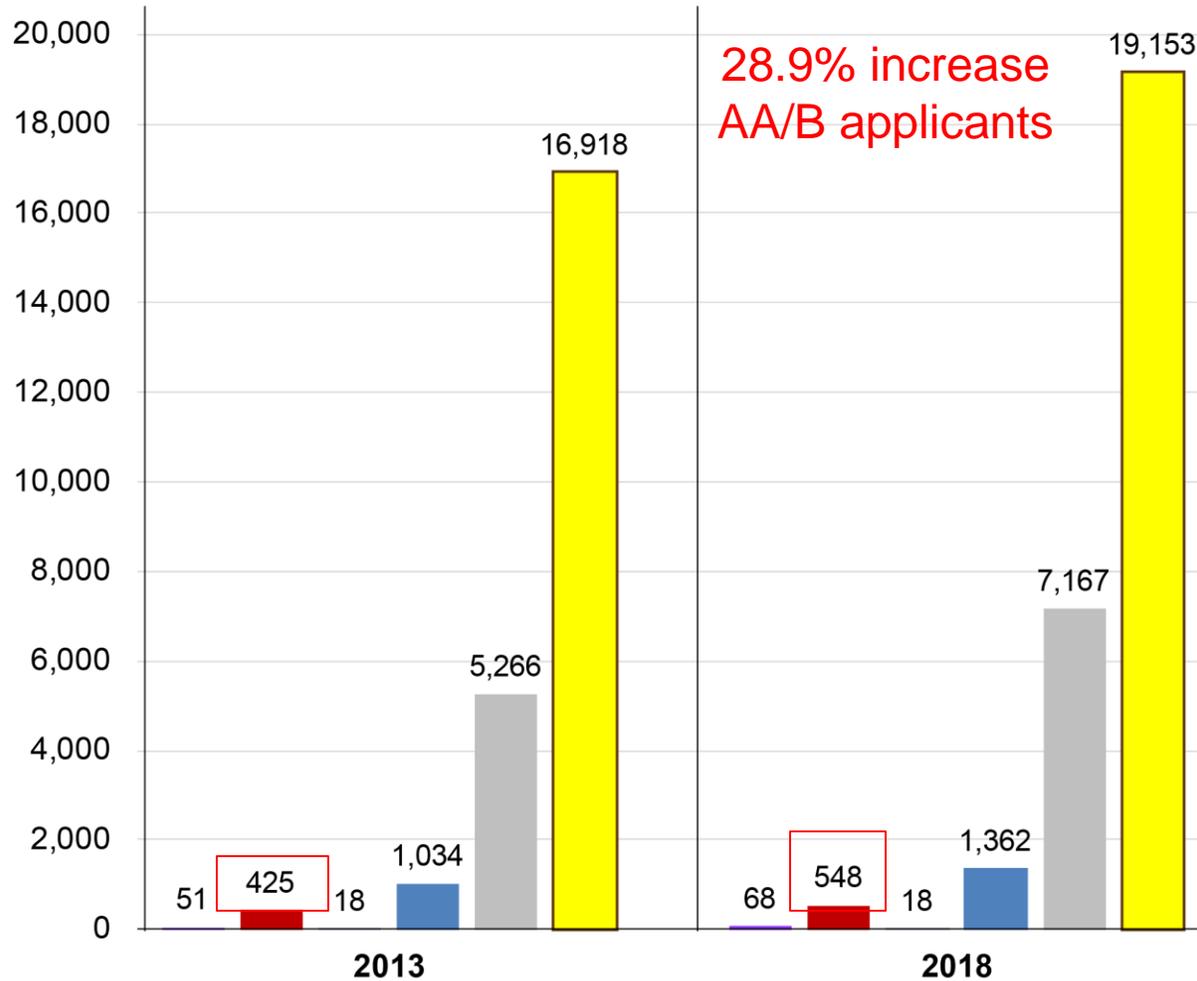
Differential success (AA:W) 0.63

Cochran-Mantel-Haenszel statistics

Effect of race adjusted for time
period: 184.45, $p < 0.0001$

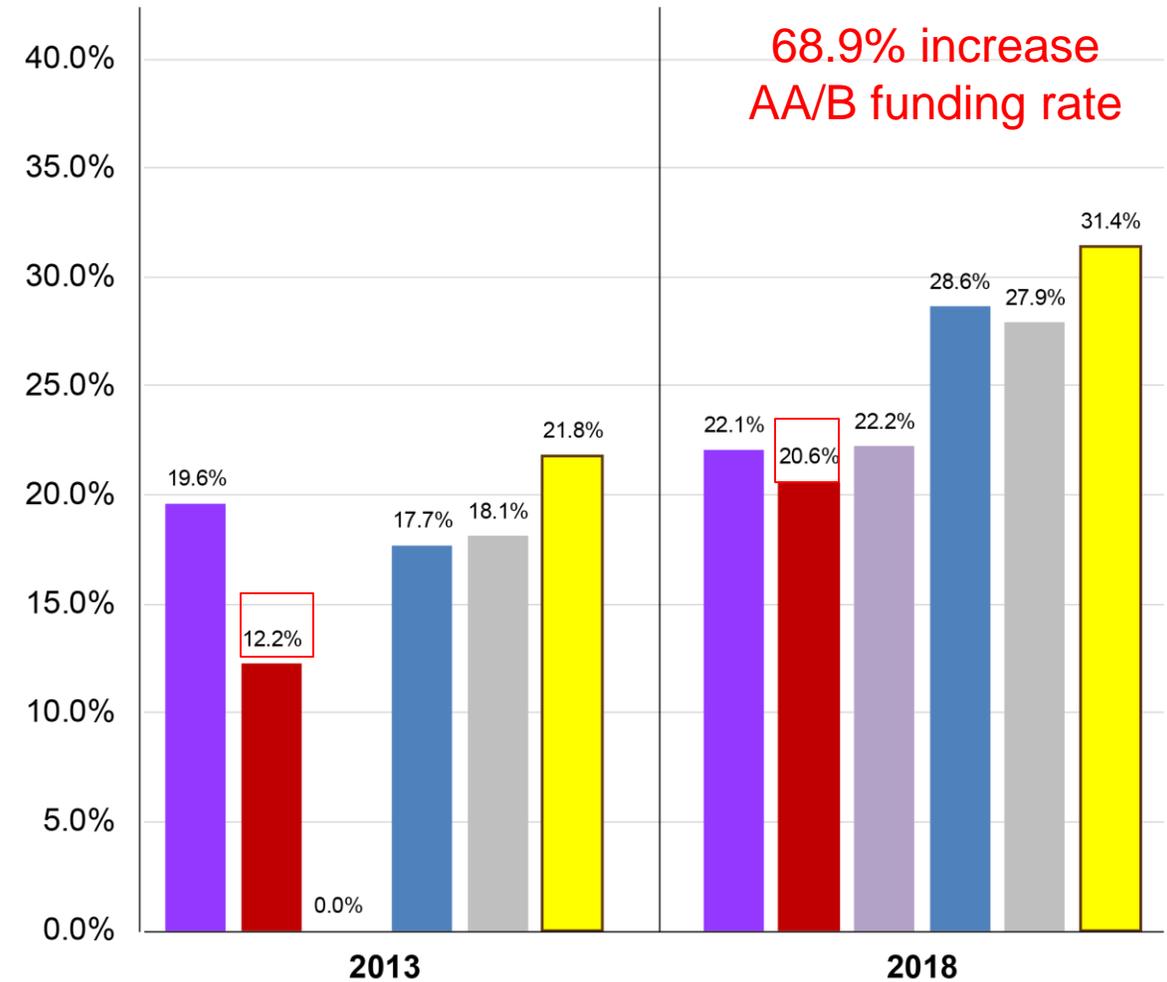
R01eq Applicants* and Funding Rates (Type 1 and 2) Race/Ethnicity FY2013 and FY2018

Number of Applicants



28.9% increase
AA/B applicants

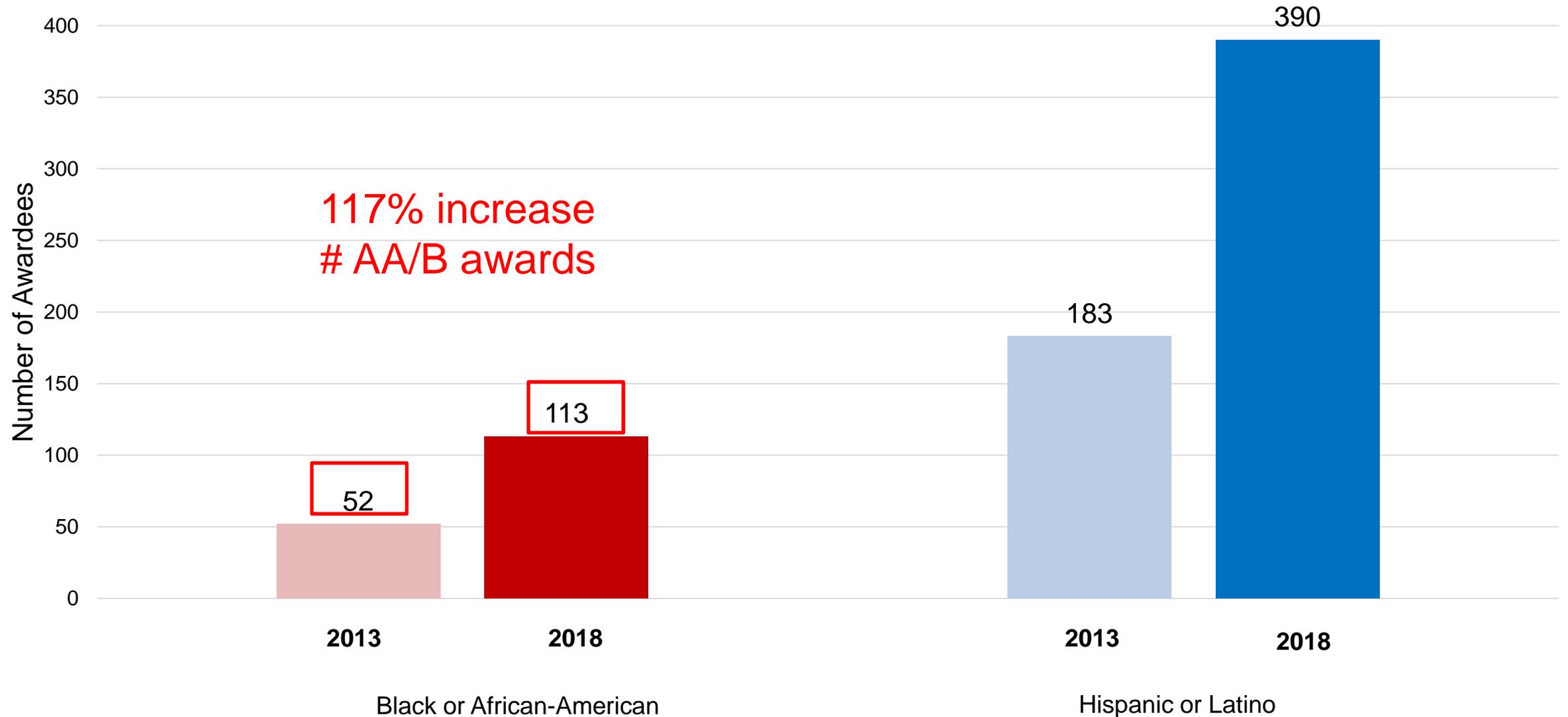
Funding Rates



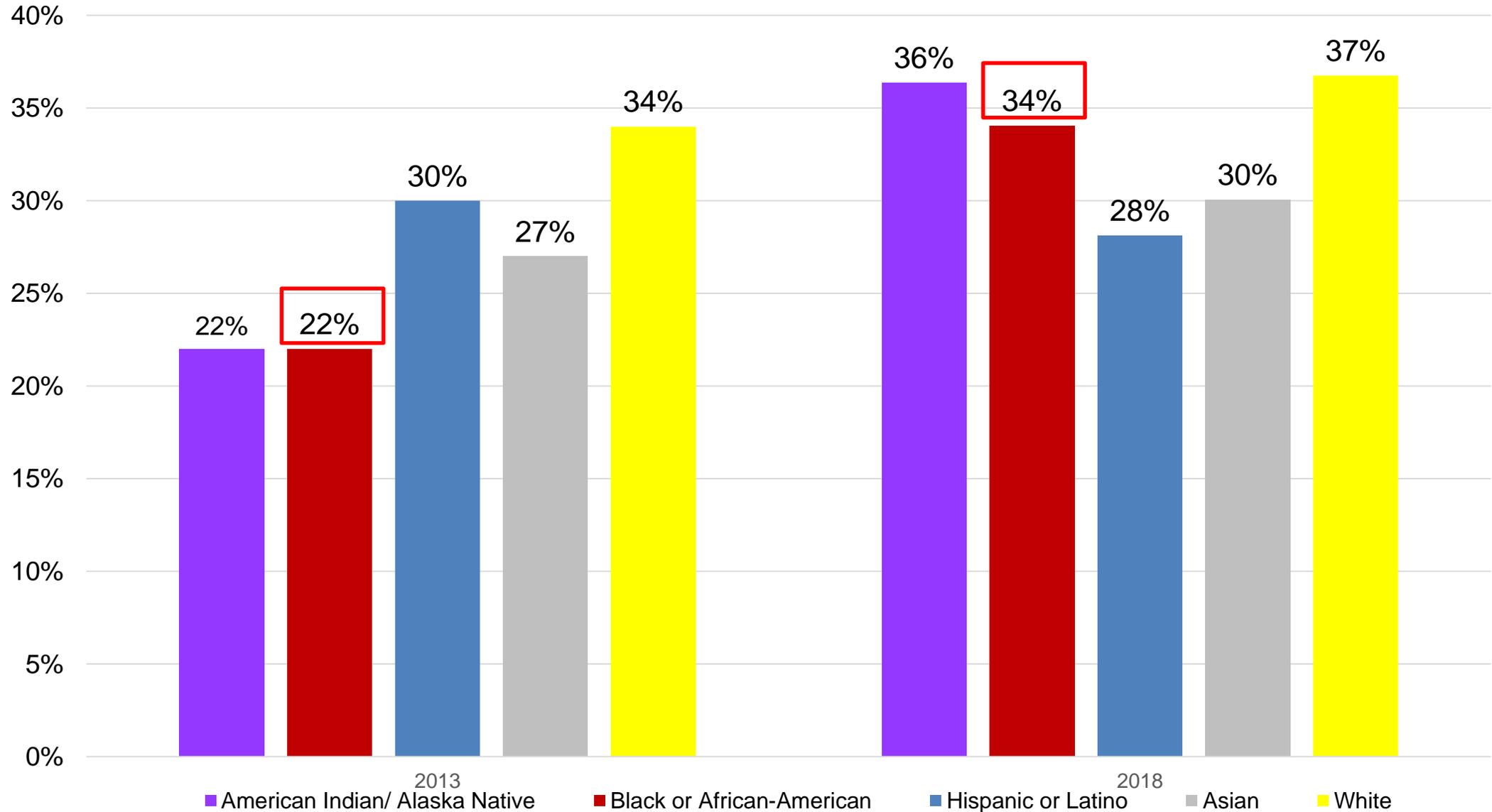
68.9% increase
AA/B funding rate

■ AI/AN ■ AA/B ■ NH/PI ■ Hispanic ■ Asian ■ White

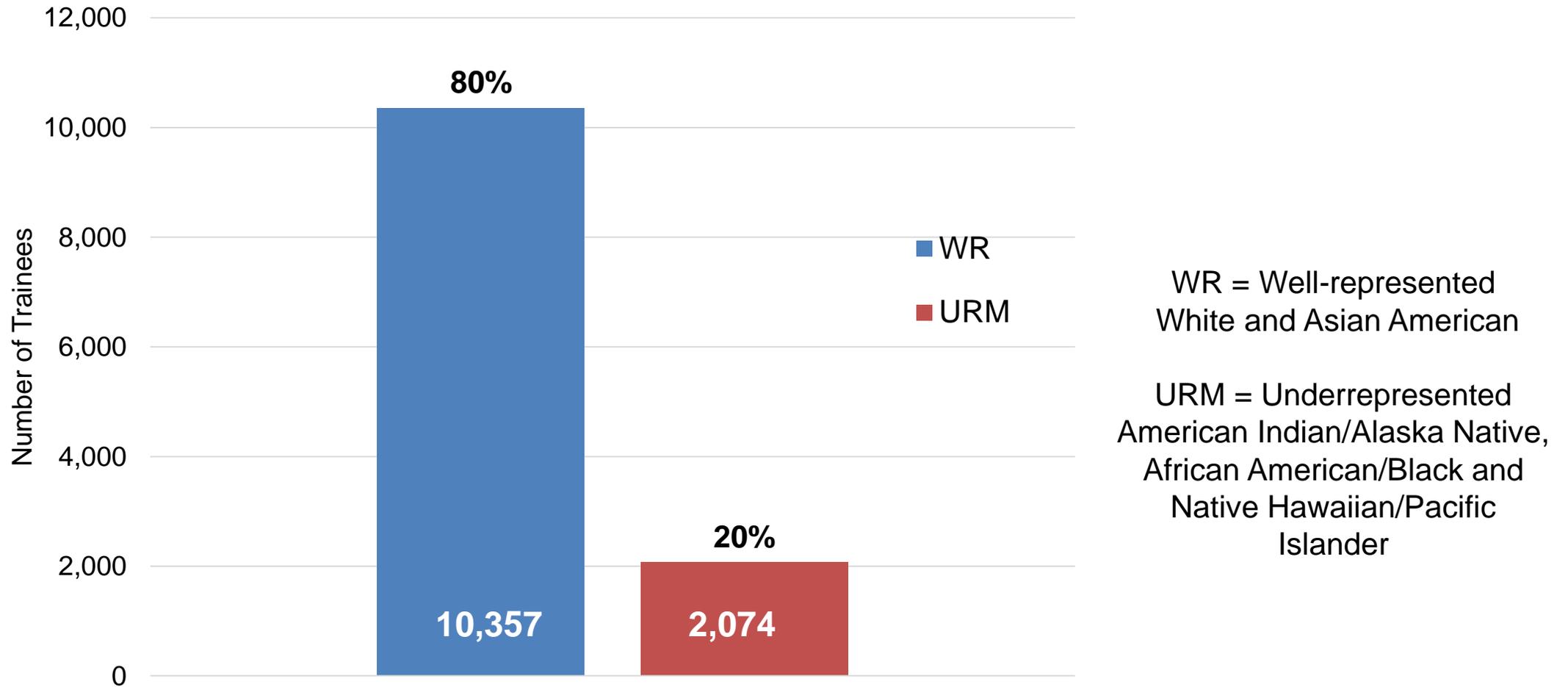
African-American and Hispanic/Latino R01eq (Type 1 and 2) Awardees FY2013 and FY2018



Funding Rates Mentored Career-Development (K-Series) Awardees Type 1 and 2: FY2013 and FY2018



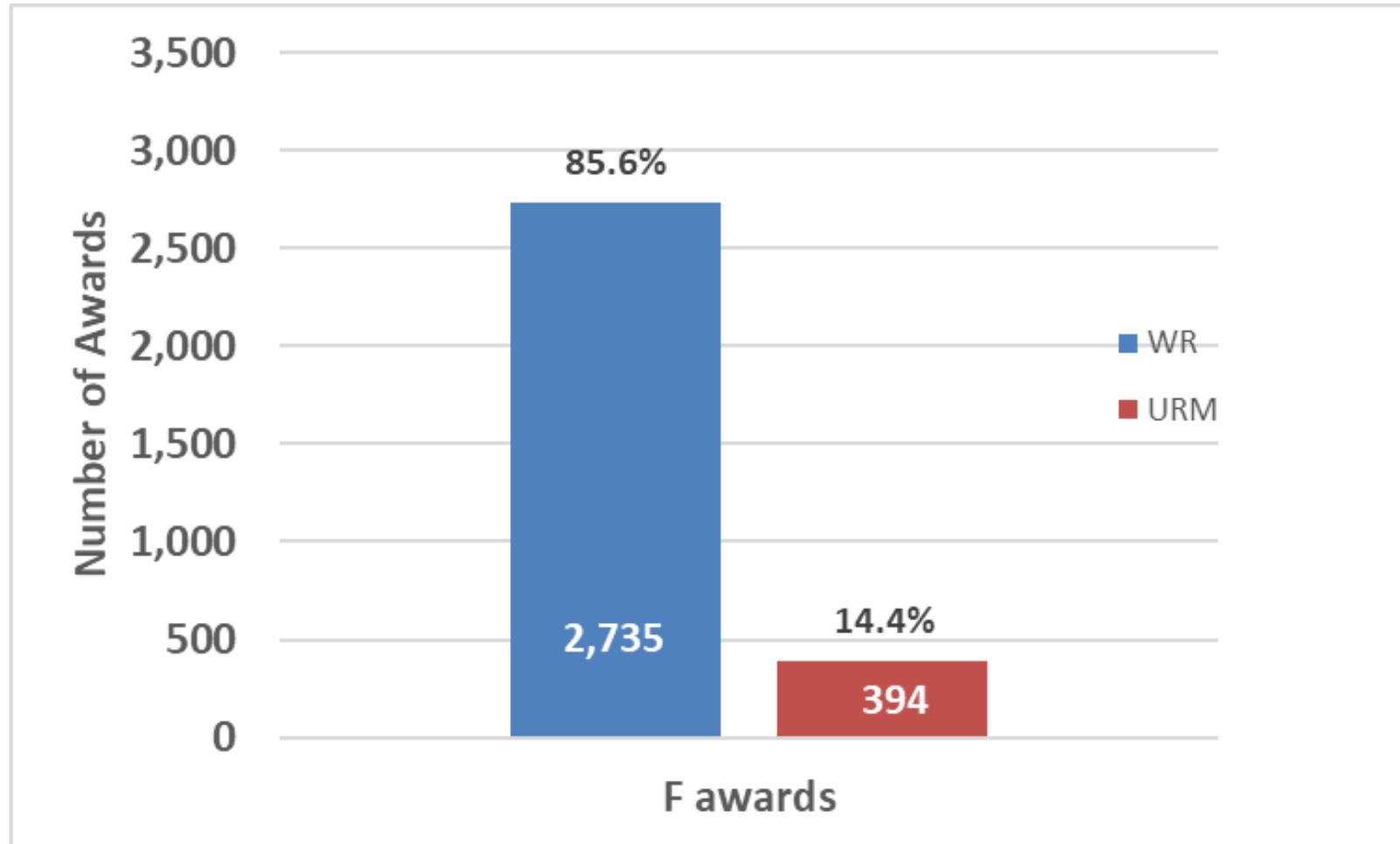
URMs Supported on Predoctoral and Postdoctoral Training* Grants (2018) Increased to 20% from 12% in 2012



* T15, T32, T34, T35, T90, TL1, TL4

URM Trainees Supported on Predoctoral Fellowships (F31) and Postdoctoral Fellowships (F32)

Increased in 2018 to 14.4% from 10% in 2012



WR =Well-represented
White and Asian American

URM = Underrepresented
American Indian/Alaska
Native, African
American/Black and Native
Hawaiian/Pacific Islander

PhD Recipients in NIH-Relevant Fields

Increase in URM Representation (2012-2017)

Life Sciences

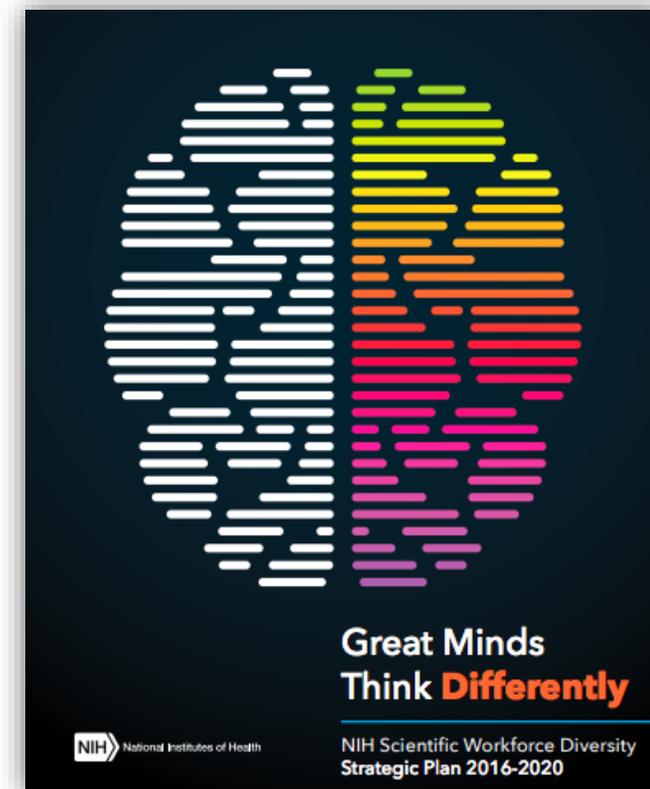
Race/Ethnicity	Totals			Percentage	
	2012	2017	% Change	2012	2017
Hispanic or Latino	493	606	22.92%	6.17%	7.07%
American Indian or Alaska Native	24	25	4.16%	0.30%	0.29%
Asian	934	1,014	8.56%	11.68%	11.84%
Black or African American	448	577	28.79%	5.60%	6.74%
White	5,880	6,059	3.04%	73.56%	70.72%
More than one race	215	286	31.56%	2.69%	3.34%
Totals	7,994	8,567		100.00%	100.00%



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NIH Scientific Workforce Diversity Strategic Plan

NIH Diversity Program Consortium

Building Evidence- Awards made October 2014

Total: \$250 million (5 years)

BUILD: 10 sites/experiments

NRMN

CEC



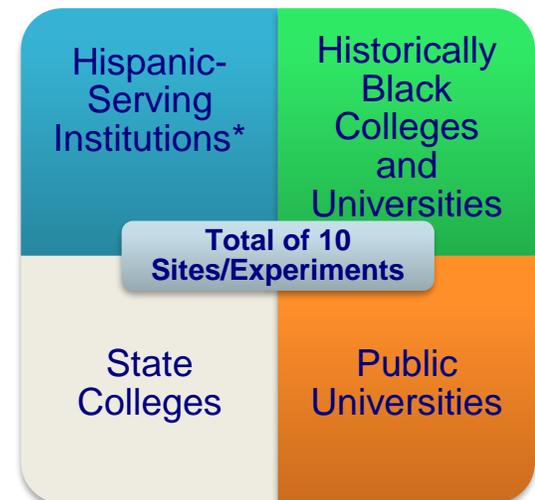
Phase II begins July 2019

BUILD Tested Interventions

- Stereotype threat
- Critical race theory
- Student entrepreneurship
- Living and learning communities

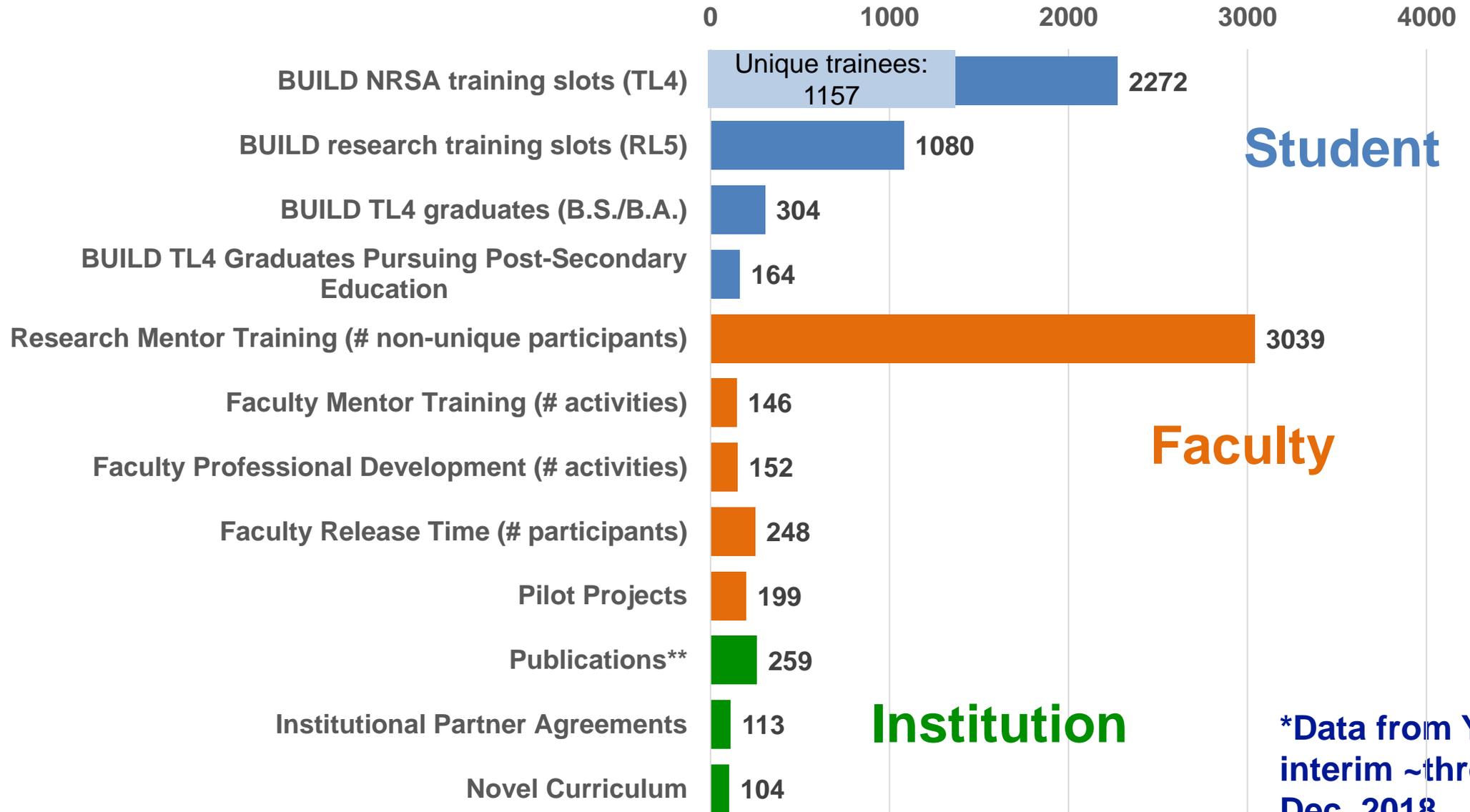
NRMN Activities

- Guided virtual mentorships
- MyNRMN tool
- Mentors: 3,470*
- Mentees: 5,690 *
- Grantwriting/coaching - mentees: 546*
 - 152 awards granted (89 NIH awards)



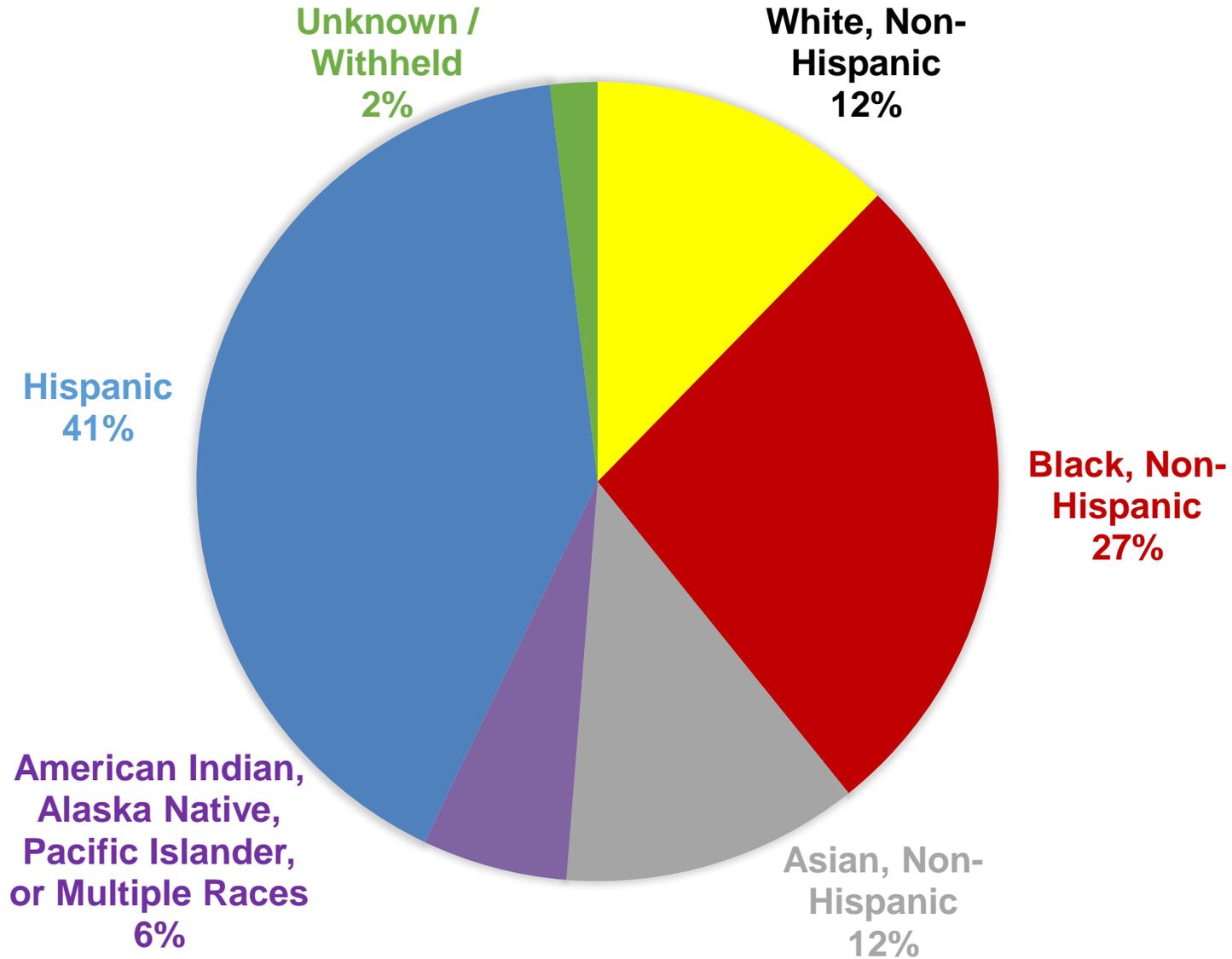
**Data as of January 2019 *Track record of training Hispanic students*

BUILD Dashboard (Years 1-5*)



*Data from YR5 is interim ~through Dec. 2018

BUILD NRSA Demographics



Spring 2019 data
n=1138

NRMN Grantwriting/Coaching Program

By the Numbers

6

Grant writing/coaching programs (GCPs)

546

Investigator participants in all GCPs

89

NIH awards (71%URG, 73% Women)

152

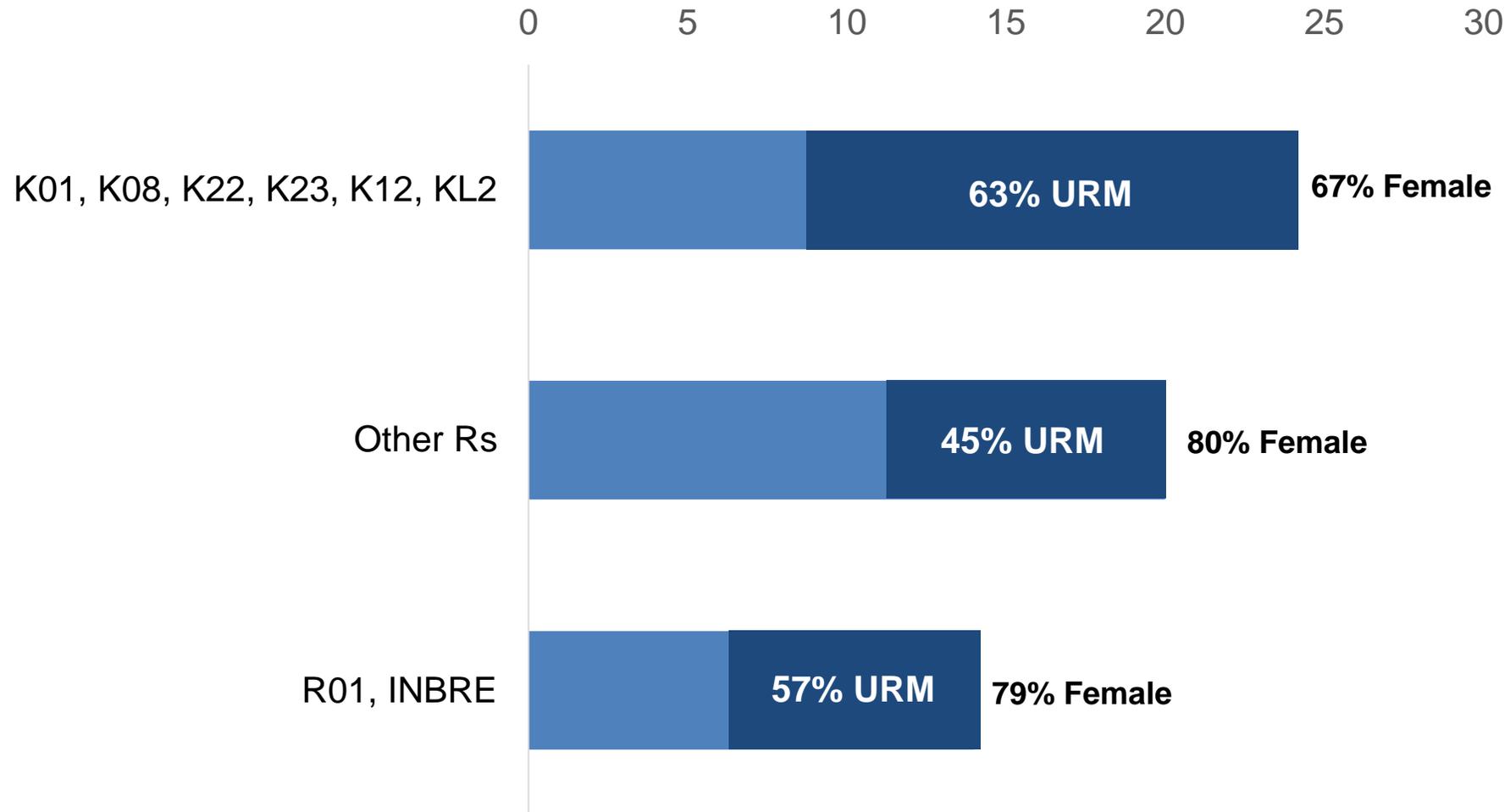
Awards (NIH + non-NIH)

\$65M

Total NIH funds across GCPs

NRMN Demographics of Grantwriting/Coaching Participants

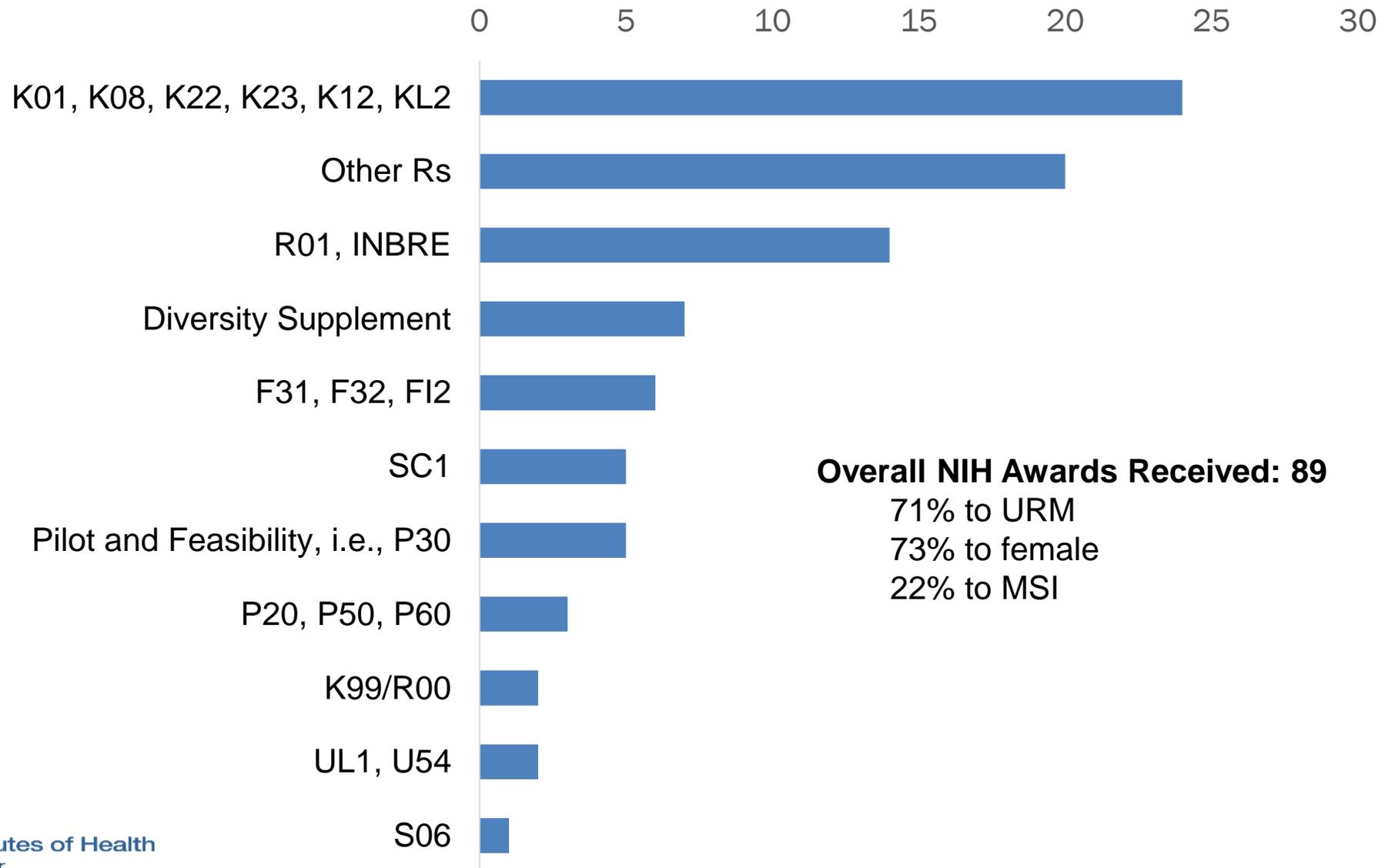
Grant Recipients (top categories)*



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NIH Awards to NRMN Grantwriting/Coaching Participants

Details by Award Types



DPC Timeline



**DIVERSITY
PROGRAM
CONSORTIUM**
*Supported by the National
Institutes of Health*

**Phase I: Develop and implement interventions & evaluations;
publish early findings**

\$250 million committed over 5 years



**Developing,
planning**

Implementing interventions, collecting data

**Phase II: Focus on continuing interventions, tracking and
evaluations, as well as sustainability and dissemination**

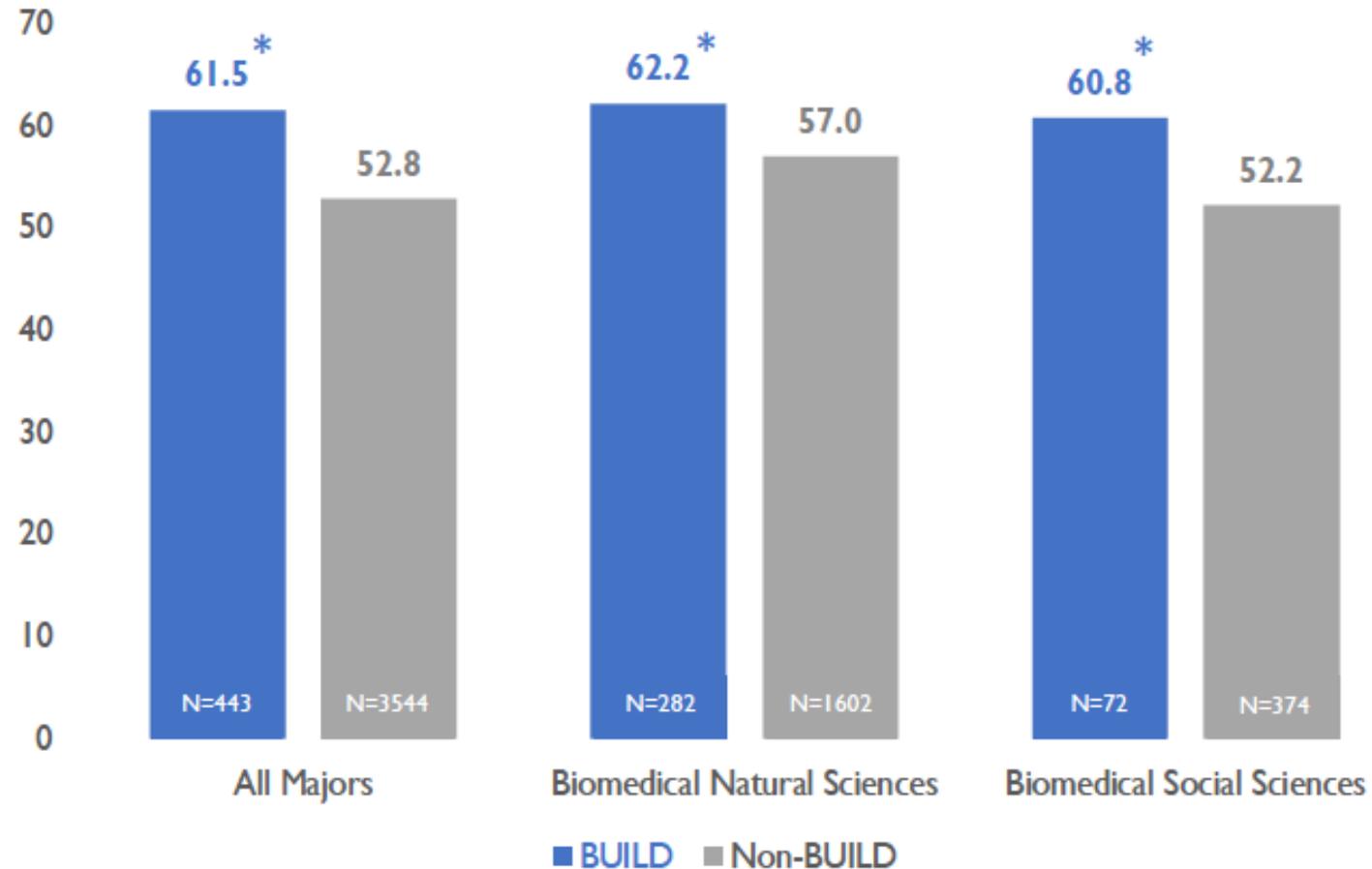


**Issued funding
announcements**

**Review
applications,
make awards**

Tracking and Evaluation of Diversity Metrics Coordination and Evaluation Center (CEC)

FIGURE 1. MEAN SCIENCE IDENTITY SCORES - BUILD AND NON-BUILD STUDENTS
IN DIFFERENT TYPES OF BIOMEDICAL MAJORS

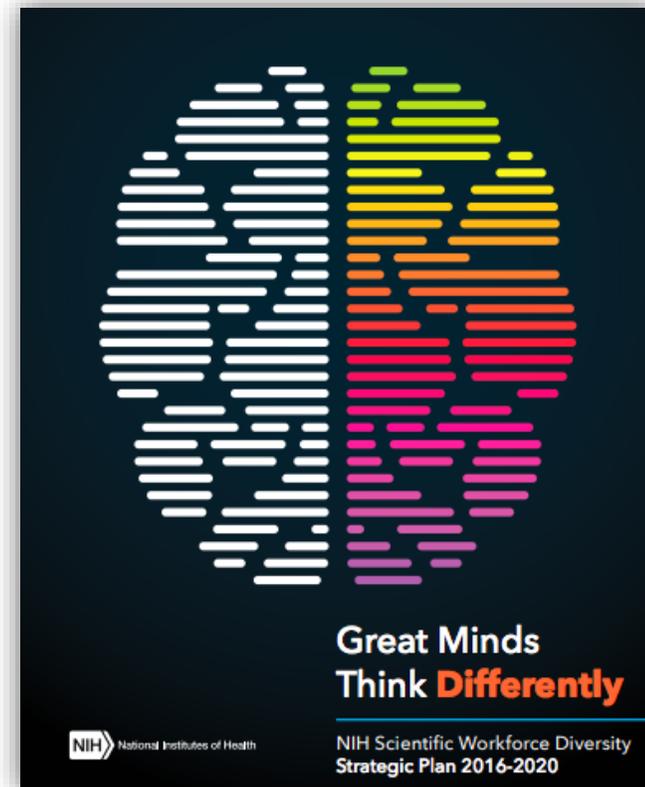


* $p < .001$

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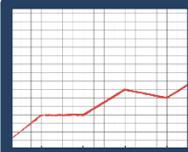


NIH Scientific Workforce Diversity Strategic Plan

2017 ACD WGD Recommendations (endorsed by ACD): *Implementation Update*

RESULTS-BASED ACCOUNTABILITY

1



Diversity/inclusion metrics reporting template

FACULTY INSTITUTIONAL RECRUITMENT FOR SUSTAINABLE TRANSFORMATION (FIRST)

2



Career-independence transition: Faculty-development institutional FOA for cohort model

NIH ADVANCING DIVERSITY PROGRAMS CONFERENCE (JUNE 24, 2019)

3



National diversity/inclusion conference

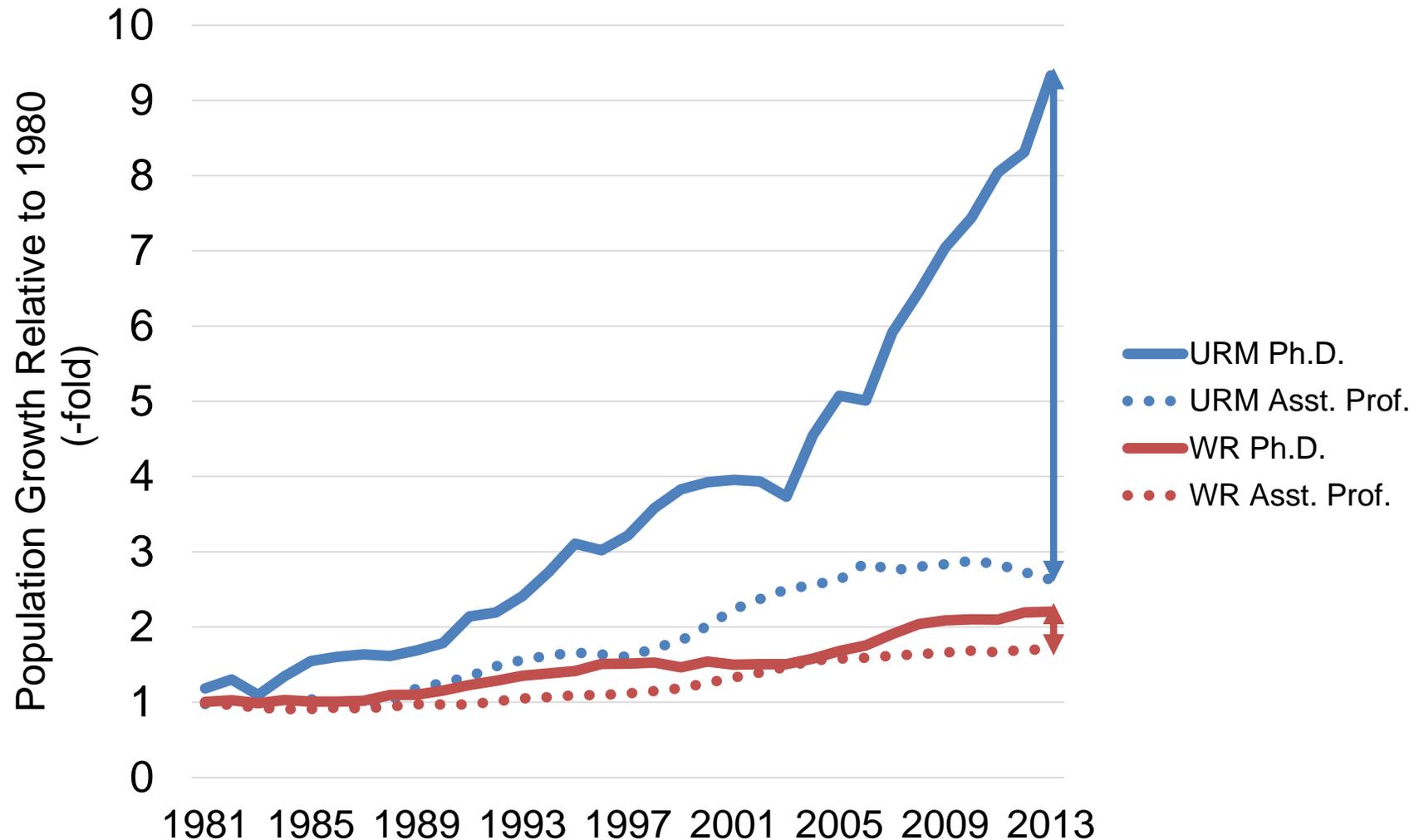
ENHANCE MENTORING AND PROFESSIONAL DEVELOPMENT

4



Diversity supplements: Trans-agency standards

Decoupling the Minority PhD Talent Pool and Assistant Professor Hiring



Gibbs, K. D., et al. (2016). *Decoupling the minority PhD talent pool and assistant professor hiring in the medical school basic science departments in the US.*

NIH Distinguished Scholars Program Goals:

Cohort Model in NIH's Intramural Research program

- Institutional transformation by recruiting a substantial number of PIs with demonstrated commitment to inclusive excellence (15 per year)
- Build self-reinforcing community of PIs committed to diversity and inclusion
- Provide professional development and culture that values mentoring and inclusion
- Send the message that NIH values a commitment to inclusive excellence



Extramural: Request for Information (RFI): Institutional Accountability to Promote Inclusive Excellence

Release Date : February 25, 2019; **Response Date:** June 14, 2019

Faculty Institutional Recruitment for Sustainable Transformation

FIRST Program Goals

- Promote inclusive excellence
 - Address racial/ethnic, gender gaps in postdoc > faculty transitions
- FIRST would be the first nationwide attempt to enhance inclusive excellence through NIH-funded institutional transformation
- Institutional transformation
 - Recruit critical mass of PIs with demonstrated commitment to diversity and inclusion
 - Build self-reinforcing community of PIs committed to diversity and inclusion
- Professional development and culture that values mentoring and inclusion
 - Institution sends message that it values diversity and inclusion



Great minds
think differently ...

QUESTIONS AND DISCUSSION